3.12 ENERGY EFFICIENCY AND RENEWABLE ENERGY

Energy is the subject of evolving national policy and longstanding debates over sources, infrastructure requirements, pricing mechanisms, environmental impacts, and related regulations and public processes. The recent peak period demand shortages in California have generated renewed interest in energy policy, and fueled old and new energy debates.

It is not the purpose of this EA to fully characterize energy policy or substantive points in the energy debates. However, this EA sets forth the idea that the mission of the NREL is to lead research, development, technology transfer and system implementation in the areas of energy efficiency and renewable energy. The NWTC is a nationally significant facility dedicated to this mission.

In this role, the NWTC takes energy conservation seriously and has implemented a comprehensive energy program as part of the "Sustainable NREL" initiative. The NWTC has a standing goal to reduce conventional energy use and views itself as a "model for the nation" in terms of sustainable technologies and designs. The Sustainable NREL" initiative addresses:

- Energy efficient building design guidelines and operational parameters including a goal of creating "zero energy" buildings that maximize use of energy conservation technology and use solar, thermal and photovoltaic systems to meet the remaining loads.
- Analysis of process loads to reduce consumption.
- Using renewable energy from on-site and off-site sources, where appropriate.
- Operating highly energy efficient vehicle fleets including the use of light duty alternative fuel vehicles.
- Encouraging employee ridesharing, minimizing commuting through alternative work schedule options and reducing business travel, where possible.

Energy Standards for DOE facilities are set forth in DOE Order 430.2 (Draft). This order requires following 10 CFR 435, which sets efficiency standards for building components (insulation, windows, etc.) and Executive Order 13123 Greening the Government Through Efficient Energy Management.

Xcel Energy provides energy in the form of electricity and gas to the project area. Related infrastructure issues are discussed in Section 3.11 and 4.11 Public Services and Utilities.

1. View of the entry sign off of Highway 128 looking west toward the Flatirons, Eldorado Canyon and the northern portion of the "Mountain Backdrop." The NWTC site is located just to the left (south) of the view.

2. View of the southeast corner of the NWTC looking east. A turbine in the test site area is visible on the left.

Figure 3-2 Photographs of the Site and Vicinity

3. View of temporary configuration of turbines and meteorological towers looking southeast from the northwest corner of the site's perimeter access road.

4. View of another set of turbines and towers looking southeast across the site using a telephoto lens. This photograph exaggerates the apparent density of turbines, towers, guy wires, and ancillary facilities on the site.

Figure 3-2 Photographs of the Site and Vicinity

5. View across the test site area looking northwest from the southeast corner of the perimeter access road.

6. View of the northwest corner of the test site area with aggregate facilities and another portion of the regional "Mountain Backdrop" visible in the distance.

Figure 3-2 Photographs of the Site and Vicinity

7. View of Building 251 looking north from the test sites.

8. View across the test site area, looking north, Building 251 is visible to the right along with other buildings in the industrial development area to the left.

Figure 3-2 Photographs of the Site and Vicinity

9. View of the largest Conservation Management Area at the NWTC looking west from the northwest corner of the site's perimeter access road. Eldorado Canyon is at the center.

10. View of a portion of the adjacent aggregate processing facilities located adjacent to the site from the perimeter access road looking west.

Figure 3-2 Photographs of the Site and Vicinity

11. View of the site and adjacent lands looking southeast toward RFETS.

12. View of Building 251 from Highway 128 north of the project site access road.

Figure 3-2 Photographs of the Site and Vicinity

13. View of the NWTC looking south from the shoulder of Highway 93 on June 25, 2001.

14. View of the NWTC looking south from the shoulder of Highway 93 on June 25, 2001 taken with a telephoto lens to clarify site features.

Figure 3-2 Photographs of the Site and Vicinity

15. View of the NWTC looking west from the shoulder of Highway 128 on June 25, 2001.

16. View of the NWTC looking west from the shoulder of Highway 128 on June 25, 2001 taken with a telephoto lens to clarify site features.

Figure 3-2 Photographs of the Site and Vicinity

17. View of the NWTC looking south from the Greenbelt Plateau trailhead.

18. View of the NWTC looking south from the Greenbelt Plateau trailhead taken with a telephoto lens to clarify site features.

Figure 3-2 Photographs of the Site and Vicinity

19. View of the NWTC looking southeast from the Flatirons Vista trailhead.

20. View of the NWTC looking southeast from the Flatirons Vista trailhead taken with a telephoto lens to clarify site features.

Figure 3-2 Photographs of the Site and Vicinity

21. View, looking south, of the upper reach of Coal Creek west of the NWTC and south of the Boulder/Jefferson County boundary line. Highway 93 is visible on the right. Xcel's existing four-inch natural gas pipeline terminates just south of this vantage point on this side of Highway 93.

Figure 3-2 Photographs of the Site and Vicinity

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Figure 3-2 Photographs of the Site and Vicinity